

Syllabus for Math 132, Winter 2006

Instructor: Vyjayanthi Chari

The text book for the course is the third edition of Linear Algebra by Fraleigh and Beauregard. We shall cover most of Chapter 4–7 and if time permits, Section 8.1. This is an upper division course and you should expect to see proofs in class and in examinations. You will notice that even the more computational exercises are abstract and will require knowing definitions, concepts and theorems. This is the nature of the subject and while it might be challenging, you will find that it is very satisfying to write rigorous proofs. I know that for many of you, this could be the first time that you are required to do “proofs” and that it might be somewhat intimidating. The TA and I will be happy to help you learn how to do this and it is important that you make an effort since most of the mathematics courses that you will take after this one will also involve proofs and abstract concepts.

Office Hours: My office is in Surge 254 and my office hours will be on Mondays from 1.30–2.30 and on Thursdays from 2–3 and at other times by appointment. I urge you to make use of office hours to discuss any problem you encounter with the course and the course material.

Homework: There is a list of homework problems at the end of the section. The ones in bold have to be turned in to your TA and will be graded. The total value of the homework towards your final grade is 6%. You should be able to do all the problems assigned, some of them will appear in the quizzes and midterms.

Quizzes: There will be four quizzes in discussion each of which will be twenty minutes long and each will be worth 6% of your total grade. The quizzes will have two problems, one of which will be a proof and the other will be more computational (but let me repeat my warning: they will require knowing definitions, concepts and theorems.)

Quizzes in Discussion: January 17, February 14, February 24 and March 14.

Midterms There will be two midterms in class each worth 20% of your grade. Each midterm will have between five and six questions and at least three of those will involve proofs.

Midterm 1 is on January 27, and Midterm 2 is on March 3,

Grades The final examination is on March 22 8–11 am. It is cumulative and is worth 30% of your total grade.

My general policy on assigning grades is as follows, this will be modified slightly depending on class performance.

A+ 95–100, A 90–94, A- 85–89,

B+ 80–84, B 75–79, B- 70–74

C+ 65–68, C 62–64, C- 59–61,

D+ 57–59, D 51–56, D- 45–51,

F 0–44.

A final word: About examinations and homework. The TA's and I will be happy to answer any questions you have about the homework and other related material in office hours, in discussions, in lectures and in review sessions. However, we will **not** provide you with sample midterms, sample quizzes or review sheets, we expect you to go to class, go to discussion, to do the homework and to see us in office hours.

Detailed Syllabus and Homework Assignments

This is how I plan to cover the material, however as the course goes on I might modify the schedule a bit.

January 6 Section 4.1

Homework

Page 248, Ex. 7, 13, 19, 21, 23, 27, **28**, 29, 37, 39.

Week of January 8-13. Sections 4.2, 4.3

Homework

Page 261, Ex. 8, 9, 16, 17, 19, 20, 21, **26**, 30, 31, 32.

Page 271, Ex. 3, 6, **10**, 15, 21, 29, 31,,33 35.

Week of January 16–20. Section 5.1, 5.2

Homework

Page 300, Ex. 3, 7, 11, **18**, 19, 21, 23, **24**, 30 , 32, 41.

Page 315, Ex. 3, 9, 11, 13, **14**, 15, 19, 22, 25.

Week of January 23–27. Complete 5.2 and Review for midterm. Midterm will be on all material from Section 4.1 up to and including Section 5.2.

No Homework this week

Week of January 30–February 3. Sections 6.1, 6.2,

Homework Page 336, 3, 5, 7, 9, 13, 17, 21, 23, **25**, 31, 33.

Page 347, Ex. 3, 5, 7, 11, **17**, 19, 21, 22, 25, 29.

Week of February 6–10. Section 6.2, 6.3

Homework

Page 358, Ex. 3, 7, 9, 11, 13, **17**, 19, 20, **22**, 22-24.

Week of February 13–17. Sections 6.3, 6.4

Homework

Page 368, Ex. 1, 3, 5, 9, 15, **16**, 19, 21, 23, 27, 31.

Week of February 20–24. Review section 3.3 and start 7.1.

Homework

Page 394, Ex. 3, 5, 7, 9, 11, 13, 15, **18**, 19, 20, 21,

Week of February 27–March 3. Complete 7.1 and review for midterm.
Midterm is on Chapter 6.

No Homework this week

Week of March 6–10 Review Section 3.4 and cover Section 7.2

Homework Page 406, Ex 1–6, **11**, **13** , 15, 17,19,21, 23–25.

Week of March 13–17 Section 8.1 and review for final.

Homework Page 417, Ex 1–6.